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FLOOD INSURANCE STUDY

COMPLETED
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VILLAGE OF WINSLOW, ILLINOIS

STEPHENSON COUNTY

MAY 17, 1982

Federal Emergency Management Agency

COMMUNITY NUMBER - 170644

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PUBLISHED SEPARATELY:

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FLOOD INSURANCE STUDY

VILLAGE OF WINSLOW,
STEPHENSON COUNTY, ILLINOIS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Village of Winslow, Stephenson County, Illinois, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert the Village of Winslow to the regular program of flood insurance by the Federal Emergency Management Agency (FEMA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 44 CFR, 60.3 (d). In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgements

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by the U.S. Department of Agriculture, Soil Conservation Service for the Federal Emergency Management Agency, under Inter-Agency Agreement No. IAA-H-11-79, Project Order No. 10. This study was completed in August 1980, and covers all significant flooding sources in the Village of Winslow.

1.3 Coordination

In November 1978, identification of streams requiring detailed study was completed by representatives from the State Division of Water Resources (DWR), the Village of Winslow and FEMA. On April 29, 1980, a meeting was held between the DWR, FEMA, the State Water Survey, the U.S. Geological Survey (USGS), the U.S. Army Corps of Engineers (COE) and the U.S. Department of Agriculture, Soil Conservation Service (SCS) to assure agreement on the discharges used in the study. The peak discharges for the Winslow Flood Insurance Study were coordinated with the Illinois State Water Survey and the Illinois Division of Water Resources in accordance with the State Flood Plain Study Review Procedure.

During the course of the study, flood elevations, flood boundaries and floodway delineations were reviewed with community officials and the Division of Water Resources.

On October 22, 1981, the results of the work by the Study Contractor were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Village of Winslow, Stephenson County, Illinois. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through August 1985. The scope and methods of study were proposed to and agreed upon by FEMA and the Village of Winslow.

The streams studied in detail within the corporate limits were Indian Creek and Pecatonica River. Cedar Creek was not studied in detail. The flooding problem on Cedar Creek is due to backwater from Pecatonica River. Unincorporated areas near the village's corporate boundary were studied in detail to define the flooding within the corporate boundary.

2.2 Community Description

The Village of Winslow is located in northwest Illinois, in north-central Stephenson County approximately 17 miles northwest of the City of Freeport and approximately one mile south of the Wisconsin state line. It is surrounded by unincorporated Stephenson County. The total land area contained in the city limits is 0.5 square mile. Winslow is a residential community. The 1970 population was 330 (Reference 1).

The climate is typical continental, characterized by frequent changes in temperature, humidity, cloudiness and wind direction. Summer maximum temperatures are in the middle 90's (degrees Fahrenheit (F.))and winter minimum temperatures are around 15 to 20 degrees F. below zero (Reference 2). The average monthly precipitation in inches is as follows:

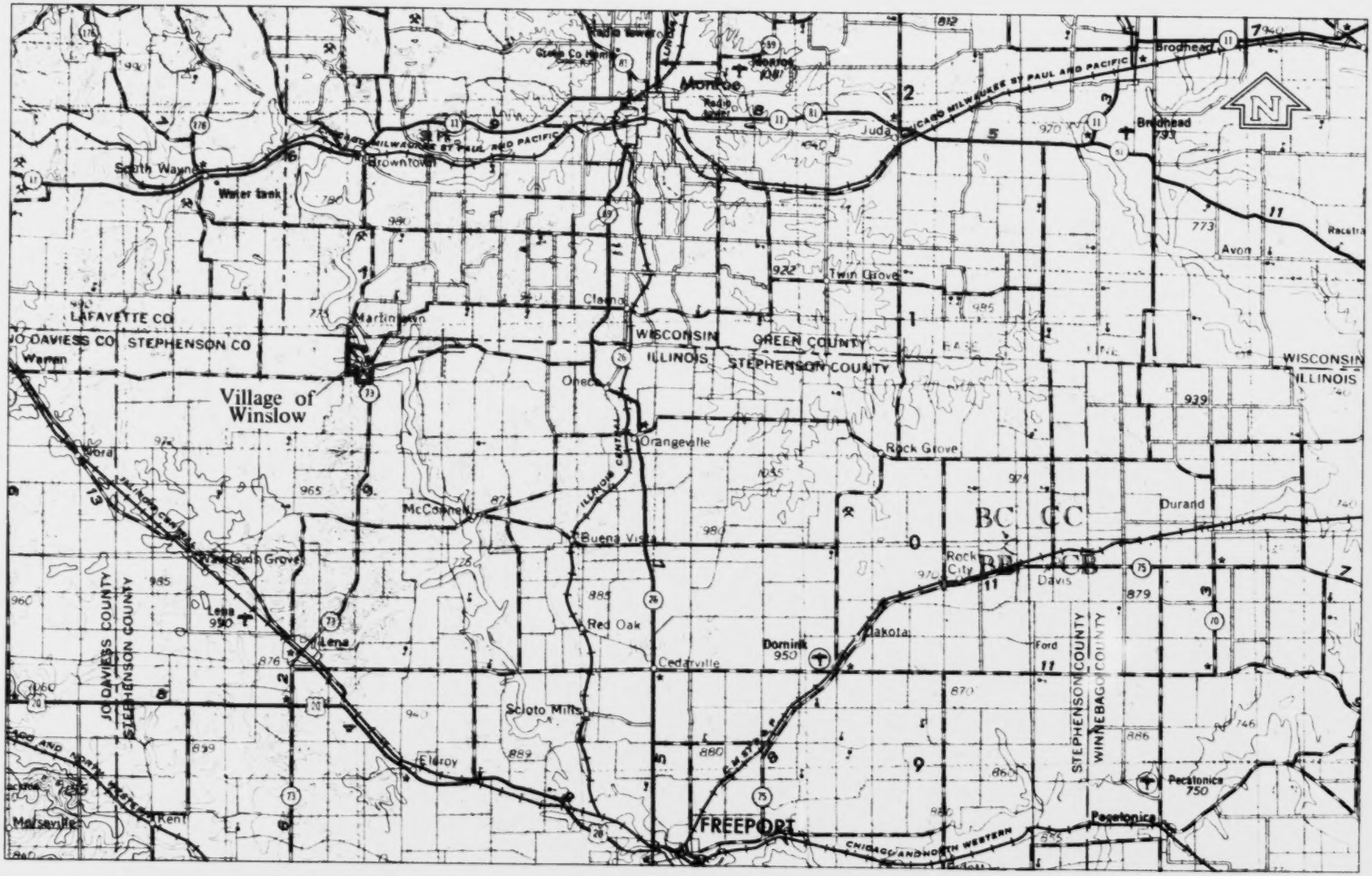

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

VILLAGE OF WINSLOW, IL

(STEPHENSON CO.)

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

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January	1.61	July	3.90
February	1.08	August	3.69
March	2.17	September	3.65
April	2.92	October	2.14
May	3.58	November	2.30
June	4.30	December	1.68

Average annual precipitation is 33 inches. More than half occurs during May through September. Based on historical records, there is a 20 per cent probability of precipitation being less than 29 inches or greater than 38 inches. In summer, precipitation occurs as showers or thunderstorms of brief duration. An individual thunderstorm frequently produces more than an inch of rain. Hail and damaging winds occasionally accompany the thunderstorms. Average annual snowfall is 25 inches (Reference 2).

The major soils of the watershed include the following: Tama, Catlin, Varna, Lawson, Downs, and Ashdale.

The upland soils are predominately well-drained to moderately well-drained soils that formed in loess over weathered till. The bottomland soils are formed from sediments washed from the weathered upland soils and are predominately poorly drained (Reference 2).

Pecatonica River flows through eastern Winslow. The drainage area of Pecatonica River at the eastern corporate limit downstream of Indian Creek junction is 1,072 square miles. The average channel slope of Pecatonica River at Winslow is less than one foot per mile. Indian Creek flows through northern Winslow and intersects with the Pecatonica River in Winslow. The drainage area of Indian Creek at the junction is 14.1 square miles. Indian Creek channel slope in Winslow is less than five feet per mile. Cedar Creek which flows through southern Winslow was not studied in detail.

A portion of the business district and a few residences are located in the flood plain. It is estimated that less than five per cent of the flood plain is developed.

2.3 Principal Flood Problems

The watershed topography is rolling, which causes the discharges to rise quickly. Pecatonica River has a large drainage area with limited capacity channel and a flat channel gradient. The areas flooded along Indian Creek and Cedar Creek in Winslow are due to backwater from the Pecatonica River. Flooding is primarily caused by rainfall from large frontal storms but may also be affected by snowmelt.

2.4 Flood Protection Measures

No plans for structural flood protection measures exist in the Village of Winslow.

Planned nonstructural measures will be limited to flood plain regulations implemented by the Village of Winslow. These regulations will require permits for construction within the one per cent chance flood plain area.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 per cent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one per cent chance of annual occurrence) in any 50-year period is about 40 per cent (four in ten), and for any 90-year period, the risk increases to about 60 per cent (six in ten). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail affecting the community.

Peak discharges for Indian Creek were determined by the SCS using the USGS Estimating Technique (Reference 3). The peak discharges were calculated for different frequencies at State Route 73 and at the west village limits.

The peak discharges for the Pecatonica River were determined from analysis of USGS gage records at Freeport, Illinois (gage No. 05435000, years of record 1914-1980), and Martintown, Wisconsin (gage No. 05434500, years of record 1940 to present). A coordination meeting was held during August 1980 between FEMA, the DWR, the USGS, the State Water Survey, the COE and the SCS. At that time, it was agreed that current Water Resources Council procedures for determining 50-, 100-, and 500-year frequency discharges from gage records would result in changing the discharges used in the Stephenson County Flood Insurance Study (Reference 4).

The final discharges used were determined by using a regression analysis of the relationship between the Freeport and the Martintown gage for the 39 years of concurrent record. The Martintown record was extended to 65 years by using the Freeport 65 years of record and the developed regression equations. These values were coordinated with the State Water Survey and approved by the DWR. The study was prepared in accordance with the state's flood plain review procedure.

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
PECATONICA RIVER					
About 400 feet downstream of Bridge Street	1,072	12,500	19,000	22,500	30,000
INDIAN CREEK					
At State Route 73	14.1	2,198	3,399	3,910	5,126

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams in the community were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals along each flooding source studied in detail.

Cross section data for streams and bridges in the area were obtained from field surveys made by the SCS. Additional sections were obtained based on topographic maps at a scale of 1:24000, with a contour interval of 10 feet (Reference 5).

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map.

Roughness values were computed in accordance with standard procedures (Reference 6). The following range of roughness values was determined for the streams studied in detail:

Location	Roughness Values Channel	Flood Plain
Indian Creek	0.04-0.054	0.055-0.075
Pecatonica River	0.04-0.042	0.07 -0.075

Starting elevations for the different profiles for Pecatonica River were based on the rating curve for Section W in the Stephenson County Report. The WSP-2 program was started approximately 26,000 feet downstream of the city limits.

The starting water-surface elevations for Indian Creek were determined using the 10-year flood elevation for Pecatonica River.

Water-surface elevations for floods of these recurrence intervals were determined using the SCS "Water-Surface Profile Computer Program" (WSP-2) (Reference 7).

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals.

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevations as shown on the profiles are, therefore, considered valid only if hydraulic structures, in general, remain unobstructed and if channel and overbank conditions remain essentially the same as ascertained during this study.

All elevations are referenced from National Geodetic Vertical Datum of 1929 (NGVD); elevation reference marks used in the study are shown on the maps.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by FEMA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100-year and the 500-year floods have been delineated using the elevations determined at each cross section; between cross sections the boundaries were interpolated using topographic maps at a scale of 1:24000, with a contour interval of 10 feet (Reference 5).

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map. Small areas within the flood boundaries may lie above the flood elevations and, therefore, not be subject to flooding; owing to lack of detailed topographical information or to limitations of the map scale, such areas are not shown. In cases where the 100-year and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of FEMA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. In Illinois though, under Revised Statutes, Section 65f, Chapter 19, as amended 1973 (Reference 8), encroachment in the flood plain is limited to that which will cause only an insignificant increase in flood heights. Thus, at the recommendation of the Illinois Division of Water Resources, a floodway having no more than a 0.1-foot surcharge has been delineated for this study (Reference 9).

The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was computed (Table 2). Part of the floodway lies outside the corporate limits.

As shown on the Flood Boundary and Floodway Map, the floodway widths were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 0.1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
PECATONICA RIVER								
A	90.50	862/360[3]	11,767	1.9	782.2	782.2	782.3	0.1
B	90.69	1278/900[3]	16,842	1.3	782.4	782.4	782.5	0.1
C	90.97	1431/675[3]	18,187	1.2	782.5	782.5	782.6	0.1
INDIAN CREEK								
A	730[2]	374	1637	2.4	782.0	778.1[4]	778.2	0.1
B	1730[2]	400	2400	1.6	782.0	778.6[4]	778.7	0.1
C	2580[2]	355	2316	1.7	782.0	778.9[4]	779.0	0.1

[1]MILES ABOVE MOUTH
[2]FEET ABOVE MOUTH
[3]TOTAL WIDTH / WIDTH WITHIN CORPORATE LIMITS
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM PECATONICA RIVER

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

VILLAGE OF WINSLOW, IL
(STEPHENSON CO.)

FLOODWAY DATA

PECATONICA RIVER - INDIAN CREEK

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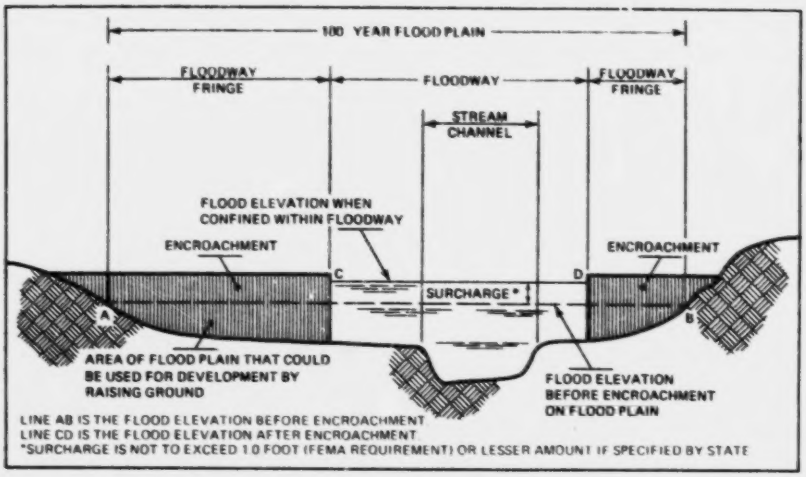
100 YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE *
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE

FIGURE 2 - Floodway Schematic

The floodways in this report are recommended to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, FEMA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHF), and flood insurance zone designations for each flooding source affecting the Village of Winslow.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 per cent of the reach.

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the Village of Winslow are shown on the Flood Profiles and are summarized in Table 3, "Flood Insurance Zone Data."

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5.2 Flood Hazard Factors

The FHF is used to correlate flood information with insurance rate tables. Correlations between property damage from floods and their FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest 0.5 foot, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of the Village of Winslow was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zones A10, A11:	Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations are shown, and zones subdivided according to FHF.
Zone B:	Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; or areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flooding.

Table 3, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Village of Winslow is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance

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FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
PECATONICA RIVER							
REACH 1	0001	–5.1	–1.7	3.0	050	A10	VARIES–SEE MAP
REACH 2	0001	–5.3	–1.7	3.0	055	A11	VARIES–SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

VILLAGE OF WINSLOW, IL
(STEPHENSON CO.)

FLOOD INSURANCE ZONE DATA

PECATONICA RIVER

zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by FEMA.

6.0 OTHER STUDIES

The Stephenson County Flood Insurance Study (Reference 4) has been completed, but the discharges used in this analysis do not agree with values used in the Stephenson County Flood Insurance Study because of additional evaluation of gage records on the Pecatonica River. This change in discharge for the 100-year flood significantly lowered the 100-year profile at Winslow. The new profile agrees with data in the COE Interim 1, Phase 1 Report for the Pecatonica River Sub-basin.

A Flood Hazard Boundary Map has been published for the community (Reference 10). The differences between the Flood Hazard Boundary Map and this study are justified due to the more detailed nature of this Flood Insurance Study.

This report either supersedes or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the National Flood Insurance Program.

7.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, Federal Emergency Management Agency, 300 South Wacker Drive, (24th Floor), Chicago, Illinois 60606.

8.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Department of Commerce, Bureau of the Census, 1970, Census of Population, Number of Inhabitants, Illinois, Washington, D.C.. 1971.

2. University of Illinois, Agricultural Experiment Station, in cooperation with U.S. Department of Agriculture, Soil Conservation Service, Soil Report 99 Soil Survey-Stephenson County, Illinois, issued April 1976.

3. U.S. Geological Survey, in cooperation with State of Illinois, Department of Transportation, Division of Highways, Water Resources Investigations 77-117, Techniques for Estimating Magnitude and Frequency of Floods in Illinois, July 1977.

4. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, Unincorporated Areas of Stephenson County, Illinois, April 1977.

5. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 10 feet: Lena Quadrangle, Illinois, 1971.

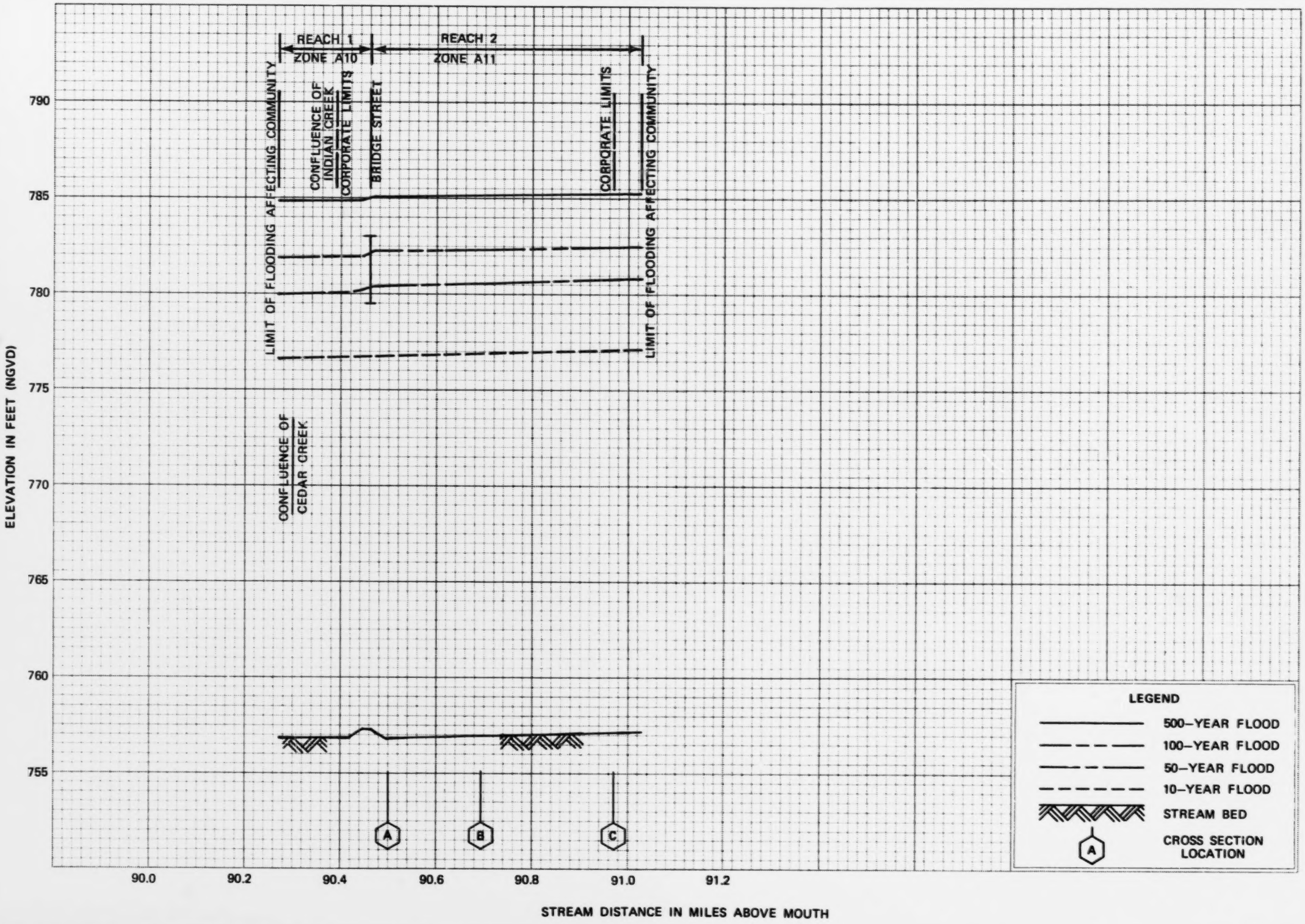
6. U.S. Department of Agriculture, Soil Conservation Service, Guide For Selecting Roughness Coefficient "n" Values for Channels, Lincoln, Nebraska, December 1963.

7. ————, Technical Release No. 61, WSP-2 Water-Surface Profile Computer Program, Champaign, Illinois, May 1976.

8. Illinois Department of Transportation, Division of Water Resources, Rules and Regulations, Regulations of Construction Within Flood Plains Established Pursuant to Section 65f, Chapter 19, Illinois Revised Statutes, Springfield, Illinois, 1973.

9. Illinois State Water Survey Division and Illinois Division of Water Resources, Governor's Task Force on Flood Control, State of Illinois Guidelines for Flood Plain Studies, March 1975.

10. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Village of Winslow, Illinois, March 1974.



FLOOD PROFILES

PECATONICA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

VILLAGE OF WINSLOW, IL
(STEPHENSON CO.)

01P

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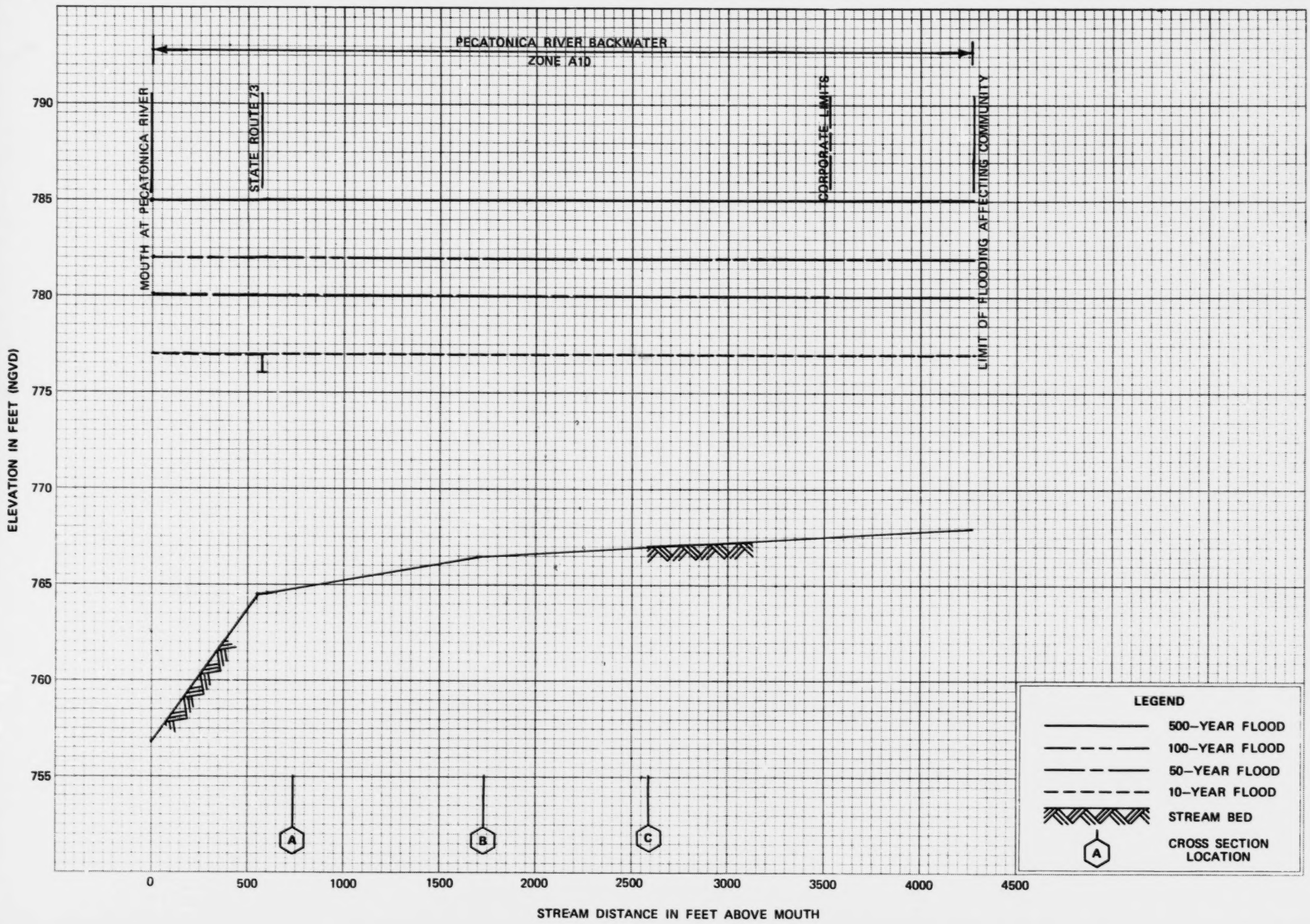

FLOOD PROFILES

INDIAN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

VILLAGE OF WINSLOW, IL
(STEPHENSON CO.)

02P

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